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TI - Introducing rubber into the Langmuir-Blodgett technique
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AB - Hydrophobic polymers with low glass transition temp. (polyisoprenes) and a single head group (sulfonate) bearing photoreactive side groups (anthracene) were synthesized and characterized as insol. monolayers on a water surface. The isotherms are similar to the parent polymers without anthracene side groups and the films can be transferred to solid substrates. The films on solid substrates and on the water surface can be crosslinked via irradiation with UV-light. Irradiation of the monolayers through a mask followed by solvent treatment gives rise to laterally structured monolayers. The 40 nm thick films crosslinked on the water surface can be transferred to solid substrate grids spanning openings of up to 0.3 mm diam. The films are rubber elastic and can be elastically deformed by applying an overpressure from one side of the freely suspended membrane.

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